

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently amended) A system for enabling components to transfer
2 data between each other, the system comprising:
3 a processor;
4 a memory;
5 a plurality of components including a first component having a data
6 ~~object; object that implements a universal data transfer interface; and~~
7 a universal data transfer interface which does not have a priori knowledge
8 ~~of the components' domain specific file system domain or printer domain~~
9 ~~protocols, wherein the data object controls the universal data transfer interface;~~
10 ~~and~~
11 a second component capable of receiving the data object and invoking the
12 universal data transfer interface to cause a data transfer session object (DTSO) to
13 be sent to the second component, ~~and capable of providing a viewer object that~~
14 ~~enables the third component to display transferred data associated with the~~
15 ~~DTSO's data type, wherein the second component acts as an intermediary~~
16 ~~component, which facilitates transferring of the DTSO from the first component~~
17 ~~to a third component;~~
18 wherein the DTSO is capable of being invoked by the third component to
19 transfer data between the first component and the third component;
20 wherein the DTSO includes instructions to return data types supported by
21 the first component;

22 wherein the DTSO includes instructions that enable the first component to
23 receive asynchronous event notifications;

24 wherein the DTSO includes instructions to return device type and
25 operating status of the first component; and

26 wherein the DTSO includes instructions to enable the first component or
27 the third component to negotiate with each other to select a transfer medium to
28 use to transfer data based upon the type of data.

1 2. (Cancelled)

1 3. (Previously presented) The system as set forth in claim 1 wherein the
2 third component sends a second DTSO to the first component to be used by the
3 first component for receiving data transmitted from the third component.

1 4. (Previously presented) The system as set forth in claim 1 wherein the
2 third component receives the DTSO from the first component to be used by the
3 third component for receiving data transmitted from the first component.

1 5. (Previously presented) The system as set forth in claim 1 wherein the
2 universal data transfer interface and the DTSO have source-specific object-
3 oriented mobile code that can be interpreted and performed by the first
4 component or the third component.

1 6. (Previously presented) The system as set forth in claim 1 wherein the
2 DTSO comprises instructions to enable the first component or the third
3 component to negotiate with each other to transfer data, to select a
4 communications protocol configured to transfer data between each other based
5 upon a type of data to be transferred.

1 7. (Previously presented) The system as set forth in claim 1 wherein the
2 DTSO is configured to indicate completion responsive to expiration of a data
3 transfer lease by the first component or by the third component, or responsive to
4 the first component or to the third component indicating that the data transfer has
5 completed or failed.

1 8. (Currently amended) A system for enabling components to transfer data
2 between each other, the system comprising:
3 a processor;
4 a memory;
5 a first component having a first data ~~object; object that implements a first~~
6 ~~universal data transfer interface;~~
7 a second component having a second data ~~object; object that implements a~~
8 ~~second universal data transfer interface; and~~
9 a first universal data transfer interface which does not have a priori
10 knowledge of the second component's domain specific file system domain or
11 printer domain protocols, wherein the first data object controls the first universal
12 data transfer interface;
13 a second universal data transfer interface which does not have a priori
14 knowledge of the first component's domain specific file system domain or printer
15 domain protocols, wherein the second data object controls the second universal
16 data transfer interface; and
17 a third component capable of receiving the first data object and the second
18 data object, and invoking the first universal data transfer interface and the second
19 universal data transfer interface to use a data transfer session object (DTSO) to
20 transfer data between the first component and the second component when the
21 first component has data to transfer to the second component, ~~and capable of~~
22 ~~providing a viewer object that enables the third component to display transferred~~

23 ~~data associated with the DTSO's data type~~, wherein the third component acts as
24 an intermediary component, which facilitates transferring of the DTSO from the
25 first component to the second component;
26 wherein the DTSO includes instructions to return data types supported by
27 the first component;
28 wherein the DTSO includes instructions that enable the first component to
29 receive asynchronous event notifications;
30 wherein the DTSO includes instructions to return device type and
31 operating status of the first component; and
32 wherein the DTSO includes instructions to enable the first component to
33 negotiate with the second component to select a transfer medium to use to transfer
34 data based upon the type of data.

1 9. (Previously presented) The system as set forth in claim 8 wherein the
2 third component sends the DTSO to the first component to be used by the first
3 component for receiving data transmitted from the second component.

1 10. (Previously presented) The system as set forth in claim 8 wherein the
2 third component sends the DTSO to the second component to be used by the
3 second component for receiving data transmitted from the first component.

1 11. (Previously presented) The system as set forth in claim 8 wherein the
2 DTSO is configured to indicate completion responsive to expiration of a data
3 transfer lease by the first component or the second component, or responsive to
4 the first component or the second component indicating that the data transfer has
5 completed or failed.

1 12. (Currently amended) A method for enabling a plurality of

components to transfer data between each other, the method comprising:

- invoking, with a second component having a data object that implements a universal data transfer interface, the universal data transfer interface of a first component of a plurality of components to cause a data transfer session object (DTSO) to be sent to the second component, wherein the second component acts as an intermediary component and is capable of providing a viewer object that enables the third component to display transferred data associated with the DTSO's data type, component, which facilitates transferring of the DTSO from the first component to a third component; and
- invoking the DTSO with the third component to transfer data between the first component and the third component when the first component has data to transfer to the third component;
- wherein the universal data transfer interface does not have a priori knowledge of the components' domain specific file system domain or printer domain protocols;
- wherein the DTSO includes instructions to return data types supported by the first component;
- wherein the DTSO includes instructions that enable the first component to receive asynchronous event notifications;
- wherein the DTSO includes instructions to return device type and operating status of the first component;
- wherein the DTSO includes instructions to enable the first component or the third component to negotiate with each other to select a transfer medium to use to transfer data based upon the type of data; and
- wherein a session associated with data transfer is leased subject to periodic renewal by the first component at an interval of time specified by an initial lease duration parameter.

1 13. (Cancelled)

1 14. (Previously presented) The method as set forth in claim 12 further
2 comprising sending a second DTSO to the first component to be used by the first
3 component for receiving data transmitted from the third component.

1 15. (Previously presented) The method as set forth in claim 12 further
2 comprising receiving the DTSO from the first component to be used by the third
3 component for receiving data transmitted from the first component.

1 16. (Previously presented) The method as set forth in claim 12 wherein the
2 universal data transfer interface and the DTSO have source-specific object-
3 oriented mobile code that can be interpreted and performed by the first
4 component or the third component.

1 17. (Previously presented) The method as set forth in claim 12 wherein the
2 DTSO comprises instructions to enable the first component or the third
3 component to negotiate with each other to transfer data, to select a
4 communications protocol configured to transfer data between each other based
5 upon a type of data to be transferred.

1 18. (Previously presented) The method as set forth in claim 12 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.

1 19. (Currently amended) A method for enabling components to

transfer data between each other, the method comprising:

- invoking a first universal data transfer interface of a first data object belonging to a first component and a second universal data transfer interface of a second data object belonging to a second component when the first component has data to transfer to the second component, wherein the second component acts as an intermediary component and is capable of providing a viewer object that enables the third component to display transferred data associated with the DTSO's data type, component, which facilitates transferring of the DTSO from the first component to a third component;
- obtaining a data transfer session object (DTSO) from one of the invoked first universal data transfer interface or the second universal data transfer interface; and
- using the DTSO to transfer data between the first component and the second component;

wherein the universal data transfer interface does not have a priori knowledge of the components' domain specific file system domain or printer domain protocols;

- wherein the DTSO includes instructions to return data types supported by the first component;
- wherein the DTSO includes instructions that enable the first component to receive asynchronous event notifications;
- wherein the DTSO includes instructions to return device type and operating status of the first component;
- wherein the DTSO includes instructions to enable the first component or the third component to negotiate with each other to select a transfer medium to use to transfer data based upon the type of data; and

28 wherein a session associated with data transfer is leased subject to
29 periodic renewal by the first component at an interval of time specified by an
30 initial lease duration parameter.

1 20. (Previously presented) The method as set forth in claim 19 further
2 comprising sending the DTSO to the first component to be used by the first
3 component for receiving data transmitted from the second component.

1 21. (Previously presented) The method as set forth in claim 19 further
2 comprising sending the DTSO to the second component to be used by the second
3 component for receiving data transmitted from the first component.

1 22. (Previously presented) The method as set forth in claim 19 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.

1 23. (Currently amended) A computer readable medium having stored
2 thereon instructions for enabling components to transfer data between each other,
3 which when executed by one or more processors, causes the processors to
4 perform:
5 invoking, with a second component, a universal data transfer interface of a
6 data object belonging to a first component of a plurality of components to cause a
7 data transfer session object (DTSO) to be sent to the second component when the
8 first component has data to transfer to a third component, wherein the second
9 component acts as an intermediary component and is capable of providing a
10 viewer object that enables the third component to display transferred data

11 associated with the DTSO's data type component, which facilitates transferring of
12 the DTSO from the first component to the third component; and
13 invoking the DTSO with the at least one of the plurality of components to
14 transfer data between the first component and the third component;
15 wherein the universal data transfer interface does not have a priori
16 knowledge of the components' domain specific file system domain or printer
17 domain protocols;
18 wherein the DTSO includes instructions to return data types supported by
19 the first component;
20 wherein the DTSO includes instructions that enable the first component to
21 receive asynchronous event notifications;
22 wherein the DTSO includes instructions to return device type and
23 operating status of the first component;
24 wherein the DTSO includes instructions to enable the first component or
25 the third component to negotiate with each other to select a transfer medium to
26 use to transfer data based upon the type of data; and
27 wherein a session associated with data transfer is leased subject to
28 periodic renewal by the first component at an interval of time specified by an
29 initial lease duration parameter.

1 24. (Cancelled)

1 25. (Previously presented) The medium as set forth in claim 23 further
2 comprising sending a second DTSO to the first component to be used by the first
3 component for receiving data transmitted from the third component.

1 26. (Previously presented) The medium as set forth in claim 23 further
2 comprising receiving the DTSO from the first component to be used by the third

3 component for receiving data transmitted from the first component.

1 27. (Previously presented) The medium as set forth in claim 23 wherein
2 the universal data transfer interface and the DTSO have source-specific object-
3 oriented mobile code that can be interpreted and performed by the first
4 component or the third component.

1 28. (Previously presented) The medium as set forth in claim 23 wherein
2 the DTSO comprises instructions to enable the first component or the third
3 component to negotiate with each other to transfer data, to select a
4 communications protocol configured to transfer data between each other based
5 upon a type of data to be transferred.

1 29. (Previously presented) The medium as set forth in claim 23 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.

1 30. (Currently amended) A computer readable medium having stored
2 thereon instructions for enabling components to transfer data between each other,
3 which when executed by one or more processors, causes the processors to
4 perform:
5 invoking a first universal data transfer interface of a first data object
6 belonging to a first component and a second universal data transfer interface of a
7 second data object belonging to a second component when the first component
8 has data to transfer to the second component, wherein the second component acts
9 as an intermediary component, ~~and is capable of providing a viewer object that~~

10 enables the third component to display transferred data associated with the
11 DTSO's data type, which facilitates transferring of the DTSO from the first
12 component to a third component;
13 obtaining a data transfer session object (DTSO) from one of the invoked
14 first universal data transfer interface or the second universal data transfer
15 interface; and
16 using the DTSO to transfer data between the first component and the
17 second component;
18 wherein the universal data transfer interface does not have a priori
19 knowledge of the components' domain specific file system domain or printer
20 domain protocols;
21 wherein the DTSO includes instructions to return data types supported by
22 the first component;
23 wherein the DTSO includes instructions that enable the first component to
24 receive asynchronous event notifications;
25 wherein the DTSO includes instructions to return device type and
26 operating status of the first component;
27 wherein the DTSO includes instructions to enable the first component or
28 the third component to negotiate with each other to select a transfer medium to
29 use to transfer data based upon the type of data; and
30 wherein a session associated with data transfer is leased subject to
31 periodic renewal by the first component at an interval of time specified by an
32 initial lease duration parameter.

1 31. (Previously presented) The medium as set forth in claim 30 further
2 comprising sending the DTSO to the first component to be used by the first
3 component for receiving data transmitted from the second component.

1 32. (Previously presented) The medium as set forth in claim 30 further

2 comprising sending the DTSO to the second component to be used by the second
3 component for receiving data transmitted from the first component.

1 33. (Previously presented) The medium as set forth in claim 30 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.